ANNUAL REPORT

for the fiscal year
ending March 31, 1987

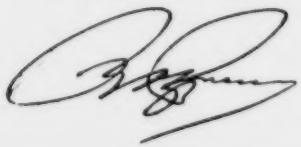
Department of Agriculture and Marketing

His Honour,
The Honourable Alan R. Abraham, C.D.
Lieutenant-Governor of Nova Scotia

May It Please Your Honour:

I have the honour to submit the Annual Report of the Department of Agriculture and Marketing for the fiscal year ending March 31, 1987.

Respectively submitted,



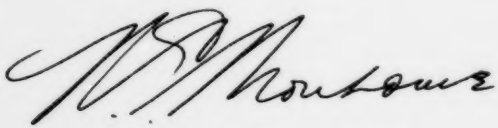
Roger Bacon
Minister

The Honourable Roger Bacon
Minister of Agriculture
and Marketing
Province of Nova Scotia
Halifax, Nova Scotia

Dear Sir:

I have the honour of presenting the Annual Report of the Department of Agriculture and Marketing for the fiscal year ending March 31, 1987.

Respectively submitted,



Ralph Morehouse
Deputy Minister

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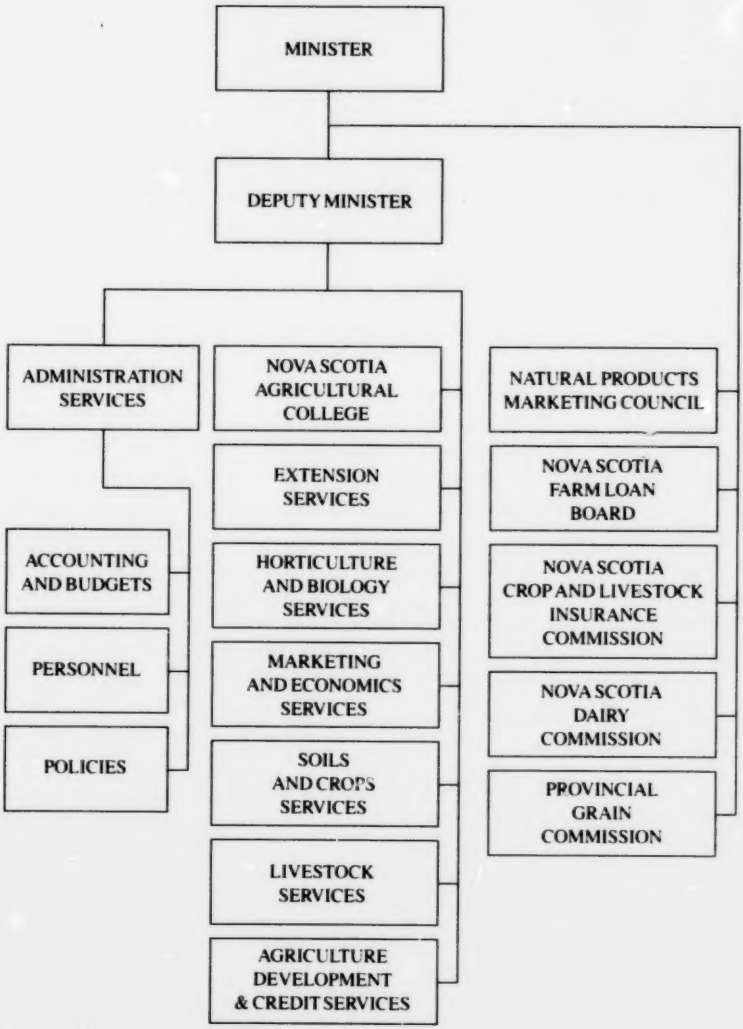
MINISTER
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MARKETING AND ECONOMICS SERVICES
SOILS AND CROPS SERVICES
LIVESTOCK SERVICES
AGRICULTURE DEVELOPMENT & CREDIT SERVICES
NATURAL PRODUCTS MARKETING COUNCIL
NOVA SCOTIA FARM LOAN BOARD
NOVA SCOTIA CROP AND LIVESTOCK INSURANCE COMMISSION
NOVA SCOTIA DAIRY COMMISSION
PROVINCIAL GRAIN COMMISSION

NOVA SCOTIA AGRICULTURAL COLLEGE

OVERVIEW

The new Animal Science Building was completed and occupied in December, 1986, providing excellent facilities for both teaching and research.

During the year, planning for several capital projects began, including a renovation of the Boulden Building into a small animal laboratory facility. In addition, planning groups are working on plans for a farmstead development, residence renovation, a chemical storage building and a new building for the fur unit on the College farm.

A Task Force was established to study the feasibility of offering a Health of Animal Technology Course. A curriculum was developed and advice was sought from a group of advisors named by the Veterinary Medical Association. The facilities for such a program will be adequate with the new Animal Science Building in place and the completion of the renovations to the Boulden Building. The results of the Task Force study are very positive and it is anticipated that the program will be implemented.

During the past year, an International Development Centre was established and a house on College Road was purchased as headquarters for the Centre. A Board, chaired by Professor J.C. Tait, with A.D. Ells as Director, was named to administer the Centre.

COURSES OFFERED

The following is a summary of courses offered at the College:

Degree

A complete four-year course leading to a degree in Agricultural Sciences (B.Sc.(Agr.)) is offered with a choice of the following options:

- Agricultural Chemistry
- Agricultural Economics
- Agricultural Mechanization
- Agricultural Soils
- Animal Science
- Plant Protection
- Plant Science

Students can take other options without interruption by transferring to the third year of the B.Sc. (Agr.) program at Macdonald College of McGill University, the University of Guelph, the University of Maine or Faculty of Agriculture at another university.

Engineering students who successfully complete the three years of the Agricultural Engineering degree course can proceed to Macdonald College of McGill University or the University of Guelph or can apply to the Technical University of Nova Scotia or to another engineering faculty to complete their program of study.

Students who wish to take the three-year Pre-Veterinary program to meet admission requirements of the Atlantic Veterinary College at the University of Prince Edward Island must, after completing the first year, enter the Animal Science option and take a specific selection of subjects. The Pre-Vet program also serves as the first three years of the B.Sc. (Agr.) program, Animal Science option. For other options it may take more than one year to complete the B.Sc. (Agr.) program.

Technician

The following two-year programs of study are offered:

- Agricultural Business
- Agricultural Mechanization
- Animal Science
- Farm Equipment
- Plant Science

Technology

The following two-year programs of study are offered:

- Biology Laboratory Technology
- Chemistry Laboratory Technology
- Landscape Horticulture Technology

The following two-year programs are offered only to students who have successfully completed one year of a specified Technician Course (or equivalent):

- Agricultural Engineering Technology
- Farming Technology

Students in the Farming Technology Course spend eleven months (including summers) of their course work on farms. Seven of those months consist of structured training under a farmer/instructor.

Agricultural Technology is a one-year program, tailored to meet the needs of the student. Only Technician graduates are eligible to apply for this course.

REGISTRATION 1986–1987

Course	Enrollment	
1st Year B.Sc. (Agr.)	103	
2nd Year B.Sc. (Agr.)	98	
3rd Year B.Sc. (Agr.)	73	
4th Year B.Sc. (Agr.)	48	
Sub-Total B.Sc. (Agr.)		322
1st Year Engineering	6	
2nd Year Engineering	7	
3rd Year Engineering	6	
4th Year Engineering	3	
Sub-Total Engineering		22
1st Year Technicians	75	
2nd Year Technicians	54	
Sub-Total Technicians		129
1st Year Technology	29	
2nd Year Technology	31	
Sub-Total Technology		60
Special Students		26
Total Full-Time Students		559

VOCATIONAL AND CONTINUING EDUCATION PROGRAMS

Vocational courses have been designed to assist men and women enter or progress in farm or farm-related careers. Forty-seven courses were held with 585 persons enrolled, totalling 9,832 student training days.

The Canada Employment and Immigration Commission sponsored 232 persons by paying their tuition and, on courses over ten days duration, providing a training allowance. Details on enrollment can be seen in the following tables:

Province	Number of Students			Percentage of Total Students		
	1986–1987	1985–1986	1984–1985	1986–1987	1985–1986	1984–1985
Nova Scotia	436	470	709	74.5	78.2	78.3
New Brunswick	72	68	82	12.3	11.3	9.1
Prince Edward Island	46	20	36	7.8	3.3	4.0
Newfoundland	24	19	18	4.1	3.1	2.0
Other Residents	7	24	60	1.1	3.9	6.6
Total Students Enrolled	585	601	905			

RESEARCH PROJECTS

Research projects were funded from a number of sources. Some of these were at the discretion of the Committee, while others were the result of individual initiative. A number of investigative projects are not included. The fund sources are as follows and may or may not be included in these statistics:

Source	Projects/Grants	Funds ($,000)
N.S. Department of Agriculture & Marketing	35	185
Agriculture Canada	3	40
NSERC	11	246
Industry Contracts and Grants	21	131
Canada-Province Development Agreement	10	221
TOTAL	80	823

COLLEGE FARM

Crops

During the 1986 harvesting year, two crops of grass and legume were cut. Yields were good and the quality above average, with the crude protein from the various fields ranging from 10.5 to 18.4 percent on a dry matter basis. However, the yields on fall and winter grains, corn silage and soybeans were disappointing. The wet summer and fall resulted in difficult harvesting with low yields and high moisture for the grains and corn silage.

During the summer approximately 1.5 hectares (3.7 acres) of land were acquired adjacent to property obtained in 1985.

The cropping program for 1986 and the cropping intentions for 1987 are shown below:

Crop	Planned 1987		Actual 1986	
	(Ha)	(Acres)	(Ha)	(Acres)
Research Plots	5	12	5	12
Corn Silage	32	79	32	79
Legume Forage	24	59	30	74
Grass Forage	20	49	14	35
Direct Seeded	35	86	10	25
Cultivated Pasture	20	49	20	49
Improved Pasture	19	47	21	52
Annual Ryegrass	4	10	10	25
Barley	12	29	8	20
Oats	0	0	10	25
Winter Wheat	0	0	8	20
Spring Wheat	5	12	0	0
Soybeans	0	0	3	7
TOTAL HECTARES/ACRES	176	432	171	423

Livestock

Changes in livestock numbers with year-end inventories were:

	April 1, 1986	Born	Bought	Died	Sold	March 31, 1987–End
Beef Cattle	156	46	3	4	48	153
Dairy Cattle	104	51	1	12	42	102
Sheep	178	111	18	24	163	120
Swine	548	1,073	2	243	919	461
Foxes	75	159	3	30	46	161
Mink	53	274	5	81	136	115

Dairy Cattle

The BCA rolling herd averages as of March, 1987, were: 173 M–169 F for the Ayrshire herd and 158 M–164 F for the Holsteins. Milk production was down with 277,105L (609,631 lbs.) being sold for the year. The sale value of milk was $116,158.93 ($41.92/hL or $19.05/cwt.) and a net value (marketing deductions including haulage) of $31.65/hL ($14.37/cwt.).

The dairy herd was used for several research and student projects:

- Physiological responses of calves placed in hutches
- Comparison of direct-cut acid-treated silage to wilted silage and hay
- Effect of source and amount of calcium on blood mineral profile and incidence of milk fever
- Effect of feeding rate of concentrates on forage intake and performance
- Effect of age of dam and time after calving on colostral density
- Effect of colostrum intake on immunoglobulin and protein content on calf serum
- Performance of New Zealand Holsteins to Canadian Bred Holsteins

The dairy stable was remodelled during the year with the removal of the steel stanchions and calf pens. These were replaced with 43 comfort stalls to permit individual feed and research on each cow in the herd. A 50′ × 80′ concrete manure storage with an underground delivery system was also completed.

Beef Cattle

Sixty-four calves were born from 62 beef cows in 1986. The beef herd continued to run four breed groups during the year with Lacombe Shorthorn and a Simmental bull being the primary sires.

The east beef barn was remodelled to accommodate free-stalls for the mature cows. In addition, the hay barn was converted to a free-stall barn to house weaned calves.

A summary of the beef herd performance follows (lbs.):

Breed Group	Number Calving	Calves Weaned	Adjusted Weaning Wt.	Adjusted Yearling Wt.
Hereford	12	13	436	952
A.C. Shorthorns	23	24	405	933
Lacombe Shorthorns	18	18	388	889
X-Breeds	9	9	457	999

Sheep

The sheep trial comparing traditional and intensive ewe flocks was brought to an end in 1986. Many of the ewes in the project have been culled for productive and reproductive reasons. A feeding trial was held in the fall comparing the value of pasture, grain and brassicas as a source of feed for growing and finishing lambs.

Swine

The swine unit maintained an average herd size of 42 sows and four gilts during the year. A total of 1,073 pigs were born alive for an average of 9.7 per sow, with 8.1 being weaned. There were 919 hogs marketed during the year with 46.7 percent grading with an index of 105 or better. Nineteen percent indexed 102–104, 26 percent indexed 101 or less and eight percent of the marketing was gilts, sows and boars.

Again this year, the College cooperated with the Nappan Experimental Farm on their research projects, marketing 547 hogs compared with 372 from the College facility.

Research and student projects in the swine unit included:

- Split weaning of sows
- The comparison of canola meal in pre-starter and starter diets
- Puberty induction, ovulation rate and embryo survival in gilts

Poultry

Three broiler flocks, one turkey flock, and 2,000 layers were used in teaching, research and student projects during the year.

Fur Unit

Fox and mink numbers were increased during the year at the Fur Unit. Research and student projects included:

- A comparison of wet and dry feeds
- The effects of handling foxes on behaviour, production and reproduction
- The collection and processing of fox semen
- Artificial insemination of foxes
- Photoperiod regulation of reproduction in foxes

- The influence of melatonin on furring and reproduction in mink and fox
- Melatonin vs. low illumination for furring in foxes

LIVESTOCK SERVICES BRANCH

OVERVIEW

The Livestock Services Branch provides services to the total livestock industry in four general areas: providing expertise in feeding, breeding and management; providing rapid and accurate diagnosis of animal diseases for practising Veterinarians and farmers; providing regulations pertaining to the production, inspection, distribution and sale of milk; and providing for the inspection of Red Meat Abattoirs.

The beef industry received lower slaughter cattle prices during 1986. However, prices paid at the two 1986 Fall Feeder Sales in Truro averaged 4.4 cents higher than in 1985. The Beef Cow-Calf Support Program was changed to a Beef Herd Improvement Policy in 1986 which helped to provide some economic stability to the beef cow-calf sector of the industry.

The sheep industry in 1986 experienced strong prices and good demand for lambs at the various markets. The check-off for wool in 1986 was six cents per pound, four cents for the operation of the Sheep Producers Association of Nova Scotia and two cents for the operation of the Nova Scotia Wool Marketing Board.

The swine industry remained concerned about its low marginal profit. A total of 181 producers were enrolled in the Pork Stabilization Program at the end of 1986, representing over 85 percent of the total provincial production. The Province leads the rest of Canada in the quality of hogs marketed.

The dairy cattle sector represents the largest single segment of the livestock industry. One hundred and eighty herds participated in the D.H.A.S. Owner-Sampler Program. The Nova Scotia Dairy Commission reports 587 producers as of December 31, 1986.

Farm sales by fluid milk producers totalled 175,015,815L (397,285,900 pounds), an increase of four percent over the previous year. In addition, 464,000L (1,053,280 pounds) were delivered by industrial milk producers. Cream producers shipped a total of 225,164 kg (496,392 lbs.) to creameries in 1986. Deliveries under the M.S.Q. Program for the year ending July 26, 1986, totalled 2,174,748 kg (4,794,339 lbs.) of butterfat.

The poultry industry segments—Egg, Chicken, Turkey and Pullet—are all under a supply management system. The egg commodity group has been under a National supply system for the longest period of time. The total cash farm income from the poultry industry is $56,264,000.

The veterinary staff and laboratory facilities support all branches of the Department of Agriculture and Marketing, as well as provide diagnostic services to the Department of Lands and Forests. Laboratory submissions for all species in 1986 were 9,091 specimens. The Livestock Health Services Program assisted 44 veterinarians in 21 clinics during 1986, working under 20 Livestock Health Services Boards. Another program to assist the livestock owners is the Herd Health Assistance Policy. The veterinary sector provides expertise to the large animal, poultry, and fur industries.

The fur sector continued to make a large contribution to the agricultural community. The mink and chinchilla sector showed little fluctuation in production, while the fox sector continued to grow. There are 156 licensed ranchers of mink keeping 70,000 breeder females, 255 licensed fox ranchers, and five licensed chinchilla ranchers.

BEEF

Production

The following table outlines the total cattle population estimates for January, 1987, with previous estimates for comparison purposes:

Nova Scotia Cattle ('000)

	January 87	January 86	January 85	January 84
Bulls	1.8	1.7	1.7	1.7
Milk Cows	35.6	35.4	36.3	35.9
Beef Cows	26.7	26.6	26.3	26.0
Milk Heifers	14.9	15.0	15.2	15.0
Beef Heifer—Replacement	7.2	7.1	7.1	7.0
Beef Heifer—Slaughter	3.8	3.7	3.6	3.7
Steers Over One Year	11.0	10.5	10.2	10.2
Calves Under One Year	34.0	36.0	36.6	33.5
TOTAL	135.0	136.0	137.0	133.0

Prices

Slaughter cattle prices decreased slightly in 1986. A1, A2 steers averaged $72.50/cwt. at the Truro Sale, compared to $75.58/cwt. in 1985.

During the same period, D1, D2 cows sold at $50.00/cwt. compared to $51.00/cwt. in 1985.

In 1986, two feeder cattle sales were held in Truro. The overall average for both sales on 2,174 cattle was 79.08¢/lb. which was 4.42 cents higher than in 1985.

Average Price—Truro Feeder Sale

1986	1985	1984	1983	1982	1981
$79.08	$74.58	$76.35	$72.05	$67.10	$65.38

Choice and good steer calves averaged 86.5 cents per pound compared to 82.6 cents per pound in 1985. Quality was extremely good at both sales. The sales returned a total of $980,178 for the 1,239,466 pounds of feeders sold.

Improved Sire Policy

Assistance was paid on the purchase of bulls during the year as follows:

	1986	1985	1984	1983	1982
Purebred Herd Sires	31	29	38	22	22
Commercial Herd Sires	156	191	167	121	123
Total Assistance Paid	$ 71,800	$ 79,500	$ 74,600	$ 54,450	$ 43,300
Value of Bulls	$250,593	$300,227	$277,920	$192,200	$177,865

All bulls must be performance tested, either at home or at the Maritime Beef Cattle Test Station, and meet minimum standards for rate of gain and yearling weight. This policy has helped to reduce time spent on selection and inspection of bulls and helped to educate producers in the use of performance records and their application to practical breeding programs.

Beef Herd Improvement Policy

The purpose of this program is to improve and develop beef cow herds in Nova Scotia and provide some economic stability to the beef cow-calf sector of the industry.

	1986	1985
Number of Applications	508	519
Number of Animals Paid On—Total Number	3,826	15,905
Average Per Application	7.53	31
Amount of Money Paid Out—Total Amount	$612,160	$636,200
Average Per Application	1,205	1,226

Performance Testing

We continue to participate in the Federal-Provincial R.O.P. Beef Program. This program is designed to assist breeders in selecting replacement heifers and herd sires on the basis of rate of gain. It is a very valuable aid in a selection program. During the fall of 1986, 200 herds were enrolled in Home Test, making an increase of five herds from the previous year.

In addition, the Maritime Beef Cattle Test Station continues to operate on a year-round basis at Nappan. Since 1966, 2,688 bulls have been tested at Nappan.

During 1986, 218 bulls were tested at Nappan. About 60 percent of all bulls tested were from Nova Scotia.

The Test Station at Nappan also offers excellent facilities for the Annual Bull Sale held in April of each year.

Community Pastures

Livestock numbers remained fairly constant on Community Pastures during 1986, with some decrease in sheep numbers on the Cape John Pasture.

The Cape John pasture has 572 head of cattle and 202 sheep and lambs entered. The cattle did very well on pasture with an Average Daily Gain of 2.05 pounds. No disease or management problems were encountered. In general, patrons were well satisfied with livestock performance on the Cape John Pasture in 1986.

The Cape Mabou Pasture had 538 head of cattle and 110 sheep and lambs pastured. Cattle performance was excellent with an average gain of .864 kg (1.90 pounds) per day reported.

The Minudie Pasture continued to operate under lease agreement

and 318 head of cattle were pastured for seven patrons. Cattle performance was good at this Pasture during 1986.

The five Co-operative Pastures located at L'Ardoise, Cheticamp, Glendale, Manchester and Digby were operated under the management of the local co-operatives.

SHEEP

Production

The sheep industry in 1986 was highlighted by strong prices and good demand for lambs was experienced at all markets.

Northumberlamb Marketing Co-op was successful in 1986, marketing 4,000 lambs with a projection of 5,000 lambs marketed for the year ending March 31, 1987. Sheep and lamb numbers in Nova Scotia, as recorded by Statistics Canada on June 3, 1986, were 37,996, making Nova Scotia fifth in size among all provinces of Canada.

The Livestock Services Branch continued to work closely with R.O.P. Ram Test Station at Nappan in 1986. No rams were officially tested for Average Daily Gain during 1986.

The Home Test Record of Performance Program provides a mechanism for measuring the performance of animals within the flock. The Annual Report showed 60 flocks with 6,727 lambs born and 6,006 lambs weaned. Nova Scotia had the third highest number of lambs on test in 1986.

Prices

Lamb and mutton prices at the Maritime Cattle Market were strong in 1986. The volume that was offered through the market was approximately 6,252 lambs. The average price was $1.02/lb., according to the Market Report.

The Annual Breeding Stock Sale, sponsored by the Purebred Sheep Breeders Association of Nova Scotia, sold 116 head for a gross of $14,190.65. Animals sold were ewe lambs, yearlings, two-year-olds, mature and selected R.O.P. Tested Rams.

	1986		1985		1984	
	No.	Average	No.	Average	No.	Average
Ewe Lambs	18	$ 93.60	13	$110.75	22	$ 99.40
Yearlings	18	$124.33	15	$148.50	13	$157.40
Two-Year-Olds	6	$149.50	8	$ 87.00	6	$158.00
Rams	16	$229.50	24	$200.00	24	$232.00
Mature Ewes	57	$ 87.40				

Assistance Policies

The Livestock Services Branch supervised three sheep policies in 1986. They were the Improved Sire Policy, Sheep Production Policy and the Sheep Pasture Improvement Policy.

Improved Sire Policy (January 1, 1986–December 31, 1986)
Total Number of Rams Bonused—23

Suffolk—13	North Country Cheviot—3
Dorset—4	Clun Forest—2

Total Assistance—$1,902.00

Sheep Production Policy (January 1, 1986–December 31, 1986)
No. of Yearlings Bonused—1,109
No. of Producers—37
Total Assistance—$32,120.00

Sheep Pasture Improvement Policy
(January 1, 1986–December 31, 1986)
Approximate No. of Acres Fenced—275
Land Cleared (Acres)—20
No. of Producers—23
Total Assistance—$11,164.15

GOATS

The Association has a busy year organizing a number of local shows, Maritime and Atlantic. A classification day, an A.I. day, and a cheese making day were also held. A number of 4-H club members in the province had goats as their project. Four producers were officially tested under the D.H.A.S. Program. The Association and the other Maritime Associations are working on the feasibility of having a person hired to do the D.H.A.S. testing. At June 3, 1986, 177 farms reported 911 goats.

PREDATOR CONTROL

A compensation program administered by the Department of Lands and Forests paid compensation to sheep producers on 317 sheep and lambs killed by coyotes.

SWINE

Production

A total of 229,465 hogs were marketed through the Pork Producers Marketing Board of Nova Scotia. This was a decrease of 18,630 or 7.51 percent compared to '86. The average value per hog marketed was $143.57, up 15 percent from 1985. The average weekly price for 100 index hogs for 1986 was $71.09 per cwt. The gross value of these hogs was $32,944,000.

Pork Quality

The following is a comparison of how Nova Scotia indexed in relation to the Canadian average in 1986, 1984 and 1982:

	Jan.–Mar. 31 1986	Apr.–Dec. 1986	1984	1962
Index 102 - Canada	71.2	56.6(103 -)*	74.2	68.8
Nova Scotia	84.3	62.9	83.3	78.8
Index 105 - Canada	42.4	38.2(106 -)*	43.7	38.0
Nova Scotia	58.1	43.5	52.5	47.7
Index 108 - Canada	11.0	12.6(109 -)*	14.2	11.4
Nova Scotia	21.5	13.2	17.1	14.9

*As of April 1, 1986, the reporting of index groupings was changed to those found in parenthesis.

Nova Scotia producers continue to lead other provinces in Canada on the quality of hogs marketed.

Record of Performance Testing

There continued to be strong support for both Home and Station testing of swine in 1986. Fifteen hundred and ninety-one boars and 2,731 gilts were tested on the Home Testing Program in 1986. There was an increase in boars and a decrease in gilts, compared to 1985.

Swine Herd Health Program

There are 90 pork producers enrolled in the Swine Herd Health Program, utilizing the services of eight local veterinarians. This program has improved the overall management and health situations in our swine herds and is of even greater importance during periods of low pork prices, when top performance is necessary.

Improved Sire for Swine

The quality of hogs marketed in Nova Scotia is in a large measure due to the continued use of the best performance-tested boars available. Assistance was paid on a total of 335 boars. Landrace accounted for 137, Yorkshire 96, Hampshire 37, and Duroc 65.

Nova Scotia Pork Price Stabilization Program

A total of 181 pork producers are enrolled in this program, representing over 85 percent of total production. This program has been very valuable in maintaining our industry through the continued low price periods in recent years. Without this program, many producers would have found it very difficult to survive due to present economic conditions.

Swine Breeding Stock Sales

There was continued higher demand for swine breeding stock in 1986. The value of animals sold through the Nova Scotia Swine Breeding Stock Sales Society in 1986 amounted to $75,000 compared to $54,000 in 1985.

Producer Organizations

The Branch continued to work closely with both the Pork Producers Association of Nova Scotia and the Pork Producers Marketing Board of Nova Scotia. This close liaison is very important in developing programs and policies. Two areas in which we have cooperated are with regard to cost of production study committees considering supply management and stabilization programs.

POULTRY

Production

The Nova Scotia poultry industry is broken down into five economic production divisions. They are:

- Egg Production
- Pullet Production
- Broilers
  - Cornish Chicken
  - Light
  - Regular
  - Roasting
- Turkeys
  - Broilers
  - Hens
- Hatchery.

In Nova Scotia, there are five registered hatcheries. The egg segment has 43 registered producers who produced 15.7 million dozen eggs. We have 18 commercial pullet producers with a total quota of 713,550 pullets.

Nova Scotia's registered chicken producers grew approximately 17.9 million kg (39.4 million pounds) (eviscerated weight) of chicken. Eleven registered turkey producers placed 582,000 poults and produced 2.29 million kg (5.04 million pounds) (eviscerated weight) of turkey.

Blood Testing Program

The Branch continued an extensive blood testing and vaccination program for exhibition birds. In 1986, there were over 2,500 birds in the 4-H Poultry Project. The unbanded exhibition birds will continue to be tested for Pullorum.

There were two outbreaks of I.L.T. in 1986. One was in a small flock in the Debert area, but the second was a large commercial layer flock where 18,000 birds had to be vaccinated.

DAIRY

Production

Milk production for the year from our fluid farms was 175,015,815 L (397,285,900 pounds), an increase of four percent over the previous year.

Dairy cattle numbers on farms shipping fluid milk in 1986 were 31,071. These numbers reflect an average herd size of 52 cows. The number of licensed milk producers recorded on January 1, 1986, was 594. Thirteen producers left the industry and eight entered the dairy business leaving a net figure of 587 producers.

Dairy Cattle Sales

Prices for fresh cows and heifers were up slightly. Milk production per cow was slightly down over the previous year.

Number of Dairy Cows

	Jan. 1/87	Jan. 1/86	Jan. 1/85
Cows for Milk	30,000	29,500	30,000
Replacement Heifers	12,500	11,500	11,500
TOTAL	42,500	41,000	41,500

Dairy Herd Analysis Service

As of December 31, 1986, there were 180 herds on the Owner-Sampler D.H.A.S. Program. These 180 herds represent 9,123 cows.

As of December 31, 1986, the 164 herds which had completed at least 12 months on the program had a rolling herd average of 6,330 (13,951 pounds) of milk with a 3.5 percent Butterfat test. Production per cow increased by 145 kg (321 pounds) as compared to a year earlier. The top herd average in 1986 was 8,902 kg (19,620 pounds) which is an all-time high for a Nova Scotia herd on D.H.A.S.

The main thrust of the dairy section is involvement and supervision of the D.H.A.S. Program and Dairy Cattle Extension Field Services. It is also involved with breed associations, the Nova Scotia Federation of Agriculture, the Nova Scotia Milk Producers Association, the Canadian Milk Recording Board, Exhibitions, 4-H Clubs, the Holstein Sire Selection Committee and the Nova Scotia Animal Breeders' Cooperative.

VETERINARY

The Veterinary Section has responsibility in the following areas:

- Collaborates extensively with the Food Production and Inspection Branch, Agriculture Canada, in disease control and Canada Domestic Inspection
- Responsible for the Livestock Health Services Program which operates under the Livestock Health Services Act and is carried out by local Livestock Health Services Boards. This program provides for the delivery of veterinary service to livestock owners
- Responsible for the Swine Herd Health Program which is available across the Province through eight veterinary practices
- Responsible for the Cattle Herd Health Assistance Policy which is available throughout Nova Scotia through 15 veterinary practices
- Responsible for the Provincial Meat Inspection Program
- Operates the Veterinary Pathology Laboratory which processes and reports on specimens from all animal species for producers and veterinarians
- Works closely, and often collaborates, with other sections of the Livestock Services Branch, other Branches of the Department, including the Nova Scotia Agricultural College, and other Departments of Government

LIVESTOCK HEALTH SERVICES PROGRAM

This program is carried out under the Livestock Health Services Act in 21 clinics by approximately 44 veterinarians working under 20 Livestock Health Services Boards. The number of veterinarians in large animal practice varies slightly throughout the year but the numbers have gradually increased over the past several years. This program is responsible for the delivery of veterinary service to livestock producers in Nova Scotia. The number of services provided, kilometers (miles) driven and the payments to Livestock Health Services Boards are shown for 1986, 1985 and 1984.

Year	Number Clinic* Calls	Number of Farm* Calls	(Miles)	Kilometers Driven	Payment** to Boards
1986	1,556	27,909	651,354	1,048,028	$1,302,000.00
1985	1,751	27,633	650,198	1,046,169	$1,190,000.00
1984	1,860	29,617	670,567	1,078,943	$1,075,700.00

* Data from monthly statements that practices submit to Boards for payment.

** Payments to veterinary practices are less than funds paid to Boards.

Swine Herd Health Programs

The Swine Herd Health Program was made more comprehensive in 1986. The producer is entitled to one herd health visit per month. The Department of Agriculture and Marketing pays the veterinarian's call fee and ⅓ of his hourly rate. There are approximately 90 herds enrolled on this program.

VETERINARY PATHOLOGY LABORATORY

The number of laboratory submissions has stabilized in recent years. Hematology and chemistry increased dramatically over the previous year.

The bovine chemistry submissions are primarily related to herd profiling and has become an important part of evaluating herd nutritional status.

FUR FARMING

The fur sector continued to make a large contribution to the agricultural community in Nova Scotia. The mink and chinchilla sector showed little fluctuation in production, while the fox sector continued its expansion in both producer and pelt numbers. Nova Scotia fur pelt sales in 1986 were up in value to ranchers by 44.6 percent on mink and 60 percent on foxes over 1985.

Mink Ranching

Mink ranching continues to be the largest section of fur farming in Nova Scotia. There are presently 156 licensed producers within the Province keeping 70,000 breeder females. Digby County continues to be the

stronghold of the mink industry, keeping 75 percent of the total females in the Province.

The total mink pelt production in Nova Scotia is approximately 270,000, which is the second highest province in Canada. Ninety percent of Nova Scotia's mink production is Dark Mink.

The main auctions held in Canada were at Hudson's Bay, Toronto, in December, 1986, and February, 1987, with some pelts going to small auction houses in New York.

The overall pelt average at Canada Mink Breeder sponsored sales to date for 1986 production is $52.00. This price is $21.00 per pelt above 1985.

The farm gross in the 1986-87 pelting season amounted to approximately $14,000,000. This represents an infusion of new money to Nova Scotia's economy and, since 50 percent of the sales were to foreign countries, it also represents a net benefit of seven million dollars to the Canadian economy. The gross farm income does not include breeder animal sales.

Fox Ranching

Fox ranching continues to expand in Nova Scotia, with 255 licensed ranchers keeping breeder females. The average number of females kept per ranch is 23, with the largest keeping in excess of 200 females. Approximately 15,500 pelts were produced, making Nova Scotia the second largest producer in Canada, generating approximately three million dollars in gross farm receipts.

The Silver fox continues to be the predominant fox raised in Nova Scotia. The other types raised are Pearl Platinum and Platinum. There are a few ranchers importing breeding stock of new varieties from outside Canada to diversify their operations.

Since its establishment in 1984, the Nova Scotia Fur Institute has been very active in both research and extension. During 1986, feed trials, behaviour studies and artificial insemination research were carried out by staff of the Animal Science Department of the Nova Scotia Agricultural College, in co-operation with the Fur section of the Livestock Branch.

Chinchilla Ranching

This sector of the fur industry is a small one with only five licensed producers. However, it remains stable with consistent pelt returns.

MARKETING AND ECONOMICS

OVERVIEW

The Marketing and Economics Branch continued its effort to assist in the effective marketing of primary and processed farm products as a vital part of a healthy agricultural industry. The Department's emphasis on marketing is placed through this Branch.

In order to properly serve Nova Scotia Agriculture and its marketing needs, a sound understanding of the industry and its problems is required. A priority of the Branch is, therefore, to have a close and effective liaison with all levels of the marketing system. From this, a marketing program develops which entails all the elements of market analysis and research, government policies and regulations, product developments and promotions, market education and communication.

MARKETING BOARDS

Eleven commodity marketing boards operated in the province under the general supervision of the Natural Products Marketing Council in 1986. They were:

- Nova Scotia Wool Marketing Board, established 1947
- Pork Producers Marketing Board of Nova Scotia, established 1952
- Nova Scotia Chicken Marketing Board, established 1966
- Nova Scotia Egg & Pullet Producers Marketing Board, established 1966
- Nova Scotia Turkey Marketing Board, established 1972
- Nova Scotia Flue-Cured Tobacco Growers Marketing Board, established 1973
- Nova Scotia Processing Pea Marketing Board, established 1980
- Nova Scotia Winter Grain Marketing Board, established 1981
- Nova Scotia Potato Marketing Board, established 1982
- Nova Scotia Evening Primrose Marketing Board, established 1986
- Nova Scotia Processing Bean Marketing Board, established 1986

CO-OPERATIVE ASSOCIATIONS

1986–87 marked the last year of co-operative administration under the Department of Agriculture and Marketing. Responsibility for the administration of the Co-operative Associations Act was moved to the Department of Development as of April 1, 1987 as a result of a recommendation by the Nova Scotia Co-operative Council.

The number of non-agricultural co-operatives (housing, consumer, community development, etc.) continued to grow at a faster rate than agricultural co-operatives. In 1986, there were 240 co-operatives registered in Nova Scotia of which 70 were agricultural in nature. The co-operative movement remains an important function of agricultural marketing, representing over 70 percent of all agricultural sales. These co-operatives, as business ventures, draw on the services of the Department of Development.

A record 32 co-operatives were incorporated in 1986, of which four were agricultural. The year 1986 was also a near record for dissolutions, with 24 removed from the registered, three of which were agricultural.

Approximately 600 enquiries were received by the Inspector regarding co-operatives and their function. An assessment of performance of various co-operatives was maintained.

Meetings and seminars were an integral part of the Inspector's duties, with over 150 attended.

A number of special agricultural activities were anticipated, including: the Agricultural Food Development Agreement Human Resource Project, the Agricultural Food Development Agreement Information Committee, ACA Manpower Adjustment Program, Commodity Associations, and Investment Tax Incentives for Agricultural Co-ops.

DIRECT MARKETING

The popularity of community farmers' markets continued to grow. The part-time Secretary-Manager of the provincial Farmers' Markets Association worked out of this Branch's main office. There are now 20 such markets in Nova Scotia with an estimated total volume of sales of $2.5-$3.0 million annually.

Roadside markets showed a generally positive growth. The more successful markets offered innovative merchandising with good management and locations in good traffic locations.

BRANCH POLICY PROGRAMS

The Branch administered three major Departmental policy programs in the 1986–87 fiscal year, these being the School Milk Program, the Pork Price Stabilization Plan and the Live Market Hog Transportation Policy.

The School Milk Program continued to subsidize the purchase price of milk by students in Nova Scotia schools. The 1986–87 government contribution was $1.6 million. Five hundred and fifty-three schools and 171,772 students participated, representing 94.5 percent of all eligible students. A revision of the audit system was made in 1986 meaning schools were audited on a more random basis.

In 1985–86, 206 pork producers were enrolled in the Pork Price Stabilization Plan, representing 95 percent of the provincial production. Although hogs shipped under the Plan declined, the average carcass weight increased from 77.3 kg (170.06 pounds) to 79.5 kg (174.9 pounds). During the 1985–86 year, producers repaid $1.1 million of the outstanding industry loan.

The Live Market Hog Transportation Policy assisted producers in defraying a portion of the transportation cost to market. In 1985–86, 300 pork producers received benefits under the program. The assistance rate is reviewed semi-annually to assure that allocation of the funds is utilized.

TARIFFS

The Branch continued the administration of the season tariff application in imported fruits and vegetables for the Maritime zone. Products affected by tariffs in 1986–87 included snap beans, beets, broccoli, cabbage, carrots, cauliflower, sweet corn, cucumbers, onions, shallots, pears, strawberries and tomatoes.

REGULATIONS

Responsible for the administration of Nova Scotia Fruit and Vegetable Regulations, the Branch maintained liaison with the federal inspectors of Agriculture Canada and Consumer and Corporate Affairs. During the year, 97 detentions were reported, mostly dealing with apples, potatoes and pears. Discussions were held on a domestic apple inspection system, as well as updating the controlled atmosphere storage regulations.

After test marketing, a ten-pound bag of apples was added to the legal retail pack listing.

An experimental grade for canner tomatoes was approved for a limited period.

GENERAL ECONOMIC ANALYSIS

Various members of the Branch were involved in a joint strategic planning exercise of the Nova Scotia Department of Agriculture and Marketing, Agriculture Canada and the Nova Scotia Federation of Agriculture as part of the process leading up to the negotiations for another development agreement. Eight commodity sector development profiles were prepared and five strategic planning task forces undertook the preparation of proposed strategies for dairy, livestock, special crops, horticultural sectors and resource development.

In the area of livestock feed policy, several studies, reports, and presentations were made to livestock groups and Department management. A thesis was prepared and defended entitled "Feed Costs Policy and Development in Nova Scotia."

The Branch was represented in discussions on the formation of tripartite stabilization plans for apples, hogs and cattle, and evaluations were made on different approaches and modifications that might be acceptable to Maritime producers.

Another major study was done on greenhouse markets in Nova Scotia. The published report is entitled "Price Formation and Demand Analysis of Greenhouse Vegetables in Nova Scotia."

An interprovincial task force between New Brunswick and Nova Scotia studied the financial impact of the new Prince Edward Island slaughtering and processing plant on mainland packers and producers and recommendations were made on equalizing the situation.

MARKET DEVELOPMENT

An emphasis on developing the domestic market resulted in promotion and advertising activities as well as consultation and cooperation with 15 major commodity associations and farm organizations. Promotional grants and assistance were allocated to these groups according to need.

Associated with this program were recipe developments, promotion photography, in-store and mall demonstrations, trade shows, trade missions, exhibitions, conferences and sensory evaluations.

Highlights of the year included the formation of "Milk Nova Scotia," the launching of a national potato promotional program with the Fresh

For Flavor Foundation, activities with the Wild Blueberry Association of North America, the Canadian Fruit Wholesalers Conference, the Provincial Exhibition, ApEx, the Atlantic Winter Fair, Food Fair Atlantic, the Food Marketing Challenges Conference and Atlantic Insight magazine.

Through the auspices of the Maritime Farmers Council, the Atlantic Provinces Chamber of Commerce and the Agricultural Institute of Canada, the Branch cooperated in developing an agricultural awareness program for the Maritime provinces. A spin-off was presented to various service clubs and community organizations.

EXPORT MARKET

Development activities centered around the commodities: apples, blueberries, strawberry plants, hay and several processed items. The main target markets were New England, Western Europe, the Caribbean and Japan.

The apple "McRed" brand promotional effort was hindered by a lack of adequately coloured McIntosh and a small crop. Most of the blueberry work was done in cooperation with WBANA through a substantial grant provided by this department to that organization.

The Branch was involved in a trade mission to Bermuda. Participants on the mission were Scotia Hay, Farmers Co-op Dairy, Sparkling Spring Water, Larsen's Packers Ltd., Scotian Gold, Nova Scotia Fruit Growers, and Sarsfield Foods.

At the request of the Strawberry Growers Association, a four-person mission was organized to investigate strawberry production and marketing techniques in the United Kingdom and Holland.

International trade fairs and promotions involving the Branch included Food Pacific '86, Vancouver; Hostex, Toronto; Boston Sea-Sell; and the Bluenose New England promotion.

LIVESTOCK MARKETING

Liaison was maintained with all sectors of the livestock production and marketing chain.

Specific market assessments and profiles for the livestock industry were undertaken as a result of a wide range of industry enquiries includ-

ing hide sales, regional meat consumption patterns, consumer sensory testing of specific products, specialty cheese profiles and poultry feature activity reports.

Regular participation in industry meetings, individual consultations, radio and press releases and market reports assisted the industry to become informed about market conditions. The Branch continued its service of monitoring retail food advertisements. Databases were completed to allow tracking of market information prices and volumes of hogs, sheep, cattle and eggs in various North American markets. An industry tour at Ontario meat packing houses was organized by the office.

CROPS MARKETING

Ongoing liaison with grain, forage, horticultural and maple producers was maintained through regular individual contact and participation on various marketing committees, as well as in conferences and seminars. Market analysis was offered upon request in such areas as storage holdings, produce market trends and new product ideas.

1986 witnessed the establishment of several improved marketing infrastructures, including the construction of a modern cold storage by Nova-Agri Associates. Harvestcorp Foods Inc. offered a new marketing channel to producers with a new cooling and packing facility and Kings Produce Ltd. entered its second year as a producer-owned marketing company primarily involved in cole crops. An industry tour was organized to investigate a large-scale broccoli operation in New Brunswick.

The Branch also became involved in the marketing of specialty crops such as Forest and Oyster Mushrooms, Fresh and Frozen Blueberries and Hay.

FOODSERVICE

With over 30 percent of the food dollar now being spent through the foodservice industry (F.S.I.) (restaurants, catering firms, hospitals, special care homes, etc.), this sector has become an important target to food marketers. Ongoing contact with foodservice establishments is important in order to gain an understanding of the needs of this diversified industry.

Initiating and maintaining liaison with the F.S.I. was a priority of the

Branch in its second year of having a full-time foodservice marketing specialist. This was accomplished through numerous individual contacts, consultations, meetings, seminars and newsletters.

In turn, promotion and education of Nova Scotia agricultural products was made to the F.S.I. through the maintenance of a foodservice database containing 1,701 different establishments. Newsletters were regularly distributed to some 450 operators. Recipe developments and tests were made on a number of vegetable, fruit and meat products and through Audio-Visual Services, the food photography program was strengthened.

Other promotional efforts directed to the F.S.I. were a strawberry festival promotion involving 120 different foodservice establishments, an on-site nutritional educational program in 15 different metro restaurants and a successful media trade reception to launch Canadian Meat Month. A Nova Scotia Food Products Calendar promoting Nova Scotia food products entitled "Food For Thought" was well received by the F.S.I. and the general public.

MARKET INFORMATION

Aside from servicing individual requests, a variety of general market information services were made available to the Nova Scotia agricultural community.

Market Report—This report, giving local agricultural product prices on a bi-weekly basis, was subscribed to by 1,492 individuals in 1986.

Market Update—An internal, departmental letter gave regular marketing information to staff in other Branches.

Marketing Facts—Produced on an irregular basis, its intent was to describe various marketing topics and report on subjects such as marketing surveys.

Fresh Produce Supply Forecast—Fourteen issues were distributed to 175 subscribers (wholesalers, retailers, media and individuals).

The *ProNet Market Information Database*—Tracked market activity, particularly in the United States.

The *Market Line*—A telephone-recorder offered daily updated fruit

and vegetable market information.

AUDIO-VISUAL SERVICES

Audio-Visual Services is a vital part of the Marketing and Economics Branch, serving both the Branch and the Department in its promotional and educational needs.

A major video-tape production commissioned by the Soils and Crops Division entitled "Seven Months of Pasture" was completed in 1986–87. This production has been in demand not only within Nova Scotia but from most Canadian provinces and the State of Maine.

The office provided consultation on visual formats, presentations and equipment to various groups and committees.

Demand for location and studio photography continued as did the production of line negatives and lith slides. The Branch continued to build a slide library which was popular both with Department staff and farm organizations.

Graphic artistic work plays a significant role in the preparation of audio-visuals. The greatest demands in 1986 were for camera-ready artwork, computer graphics for slides and hand drawings for visual material. Other work included sign and poster, hand lettering-typesetting, logo designs, cover designs, brochure designs, letterhead designs and advertisement designs. Total assignments exceeded 650 in 1986–87 with 53 percent of the work for the Branch, 33 percent for other Department Branches, ten percent for the College and four percent for affiliated associations.

The Branch maintained a large inventory of audio-visual equipment (cameras, projectors, slide shows, etc.) which was available to the Department for extension and developmental work. There were 1,110 equipment loans recorded for the year.

Seven hundred and eighty radio tapes were produced in the year—416 were weekly agricultural tapes, 312 were for the Garden Guide series and 52 were for weekly extension news.

HORTICULTURE AND BIOLOGY BRANCH

OVERVIEW

This Branch of the Department provides leadership and an advisory service to the horticultural industry on complex scientific techniques of commercial food and ornamental crop production. The work of Branch members with commodity groups is often advisory in nature but tends to be developmental as well, particularly when working with the research committees of the various horticultural producer associations. Horticulture specialists in the Branch have also been active on the various sub-committees of the Canada/Nova Scotia Agri-Food Development Agreement, including the Berry Crops, Vegetable and Tree Fruits sub-committees. The Branch has also contributed considerable time to the Agri-Food Development Agreement On-Farm Resource Development, Technology Development and Technology Acceleration committees.

The horticultural industry strengthened and expanded again in 1986. The total farm value for horticultural crops in Nova Scotia is in excess of $60 million.

APICULTURE

Honey production was below normal in 1986, with the average yield at 21 kg (46 lbs) per hive. Total honey production was estimated at 137 tonnes (150.7 tons), a decrease of 42 percent compared to the 1985 crop and 45 percent below the five-year average.

The dollar value of the 1986 crop is estimated at $341,000. If income from hive rentals is included, the total farm gate value is $561,000. This figure does not reflect the true value of the beekeeping industry, as it does not include the dollar value of the gain by crops pollinated by honey bees.

In all, 476 packages were brought in from New Zealand compared to 1,006 in 1985. The total number of queens purchased in 1986 was 2,000, similar to previous years.

Present trends within the industry are to overwinter a larger percentage of bees and rely less on importation of package bees, because of the risk of infestation with *Acarapis woodi*, the honey bee tracheal mite. There is a growing potential for a local queen rearing and nucleus hive production industry. However, Nova Scotia beekeepers still rely heavily

on the importation of queen bees from New Zealand.

A total of 1,378 colonies were inspected for brood diseases. This represents a total of 240 apiaries inspected.

APPLE MAGGOT CONTROL

Over the past few years, infestations of apple maggot have levelled off at about 20 percent, with the exception of 1983. According to surveys carried out by the Board, 80 percent of Nova Scotia orchards are now free of apple maggot. The apple maggot survey results for the past seven years are given in the following table:

	1986	1985	1984	1983	1982	1981	1980
Number of Registered Growers	190	216	230	236	253	268	272
Number of Blocks	655	695	710	697	755	756	755
Number of Infested Blocks	133	113	124	182	118	124	144
Percentage of Blocks Infested	20.3	19.1	17.5	26.1	15.6	16.4	19.1
Percentage of Contacts Infested	27.6	37.6	37.4	45.0	29.2	31.0	39.0

As in the past, the Apple Maggot Control Board and the Food Production and Inspection Branch of Agriculture Canada cooperated in carrying out the August and September orchard inspections. A total of 12 inspectors participated in the five-week survey, during which time 1,166 inspections were completed (655 of these were commercial orchards).

BERRY CROPS

The 1986 season for berry crops, excluding lowbush blueberries, resulted in decreased production but stronger prices to producers. In 1985, these crops grossed Nova Scotia growers $5,379,434, a decrease of $186,394 from 1985.

Strawberries

The 1986 Nova Scotia strawberry industry was valued at $4,332,434, similar to the 1985 value.

Strawberry growers harvested 3.5 million quarts in 1986 compared to the record five million quart crop in 1985. Strawberry prices remained

strong throughout the season due to the low production and fruit was harvested from 405 hectares (1,000 acres). Fruit quality was excellent.

The Nova Scotia certified strawberry nursery program has experienced phenomenal growth over the past ten-year period. Sales increased from 2.8 million to 15.7 million plants during this time period. In 1986, over 83 percent of the nursery sales were to other provinces in Canada and to many States in the United States. Strawberry plants were also sold to Spain for the first time.

Blueberries

Nova Scotia's 1986 wild blueberry crop totalled 16,212,357 pounds. Average provincial production for the past five years is 16,108,080 pounds. Farm gate value for the 1986 blueberry crop was $6,484,942 based on 40 cents per pound paid to the grower. Total value to the provincial economy would be about $20 million. The lowbush blueberry industry consists of 1,000 growers and an estimated 26,000 acres in production. With the 1986 blueberry crop, 11.1 million pounds were processed in Nova Scotia, 4.6 million pounds were exported fresh to the United States and other provinces for processing and fresh sales in Nova Scotia totalled 494,200 pounds.

Trends in the blueberry industry include the introduction of mechanical harvesters while flail mowing is rapidly replacing burning as a pruning method.

The Nova Scotia Blueberry Institute is in its fifth year of operation and acts as a coordinating body for investigative research, providing assistance to the blueberry industry through demonstrations and educational programs and providing field sites for plot research and demonstrations. A 7 hectare (17 acre) block of land in the Debert Industrial Park has been deeded to the Nova Scotia Department of Agriculture and Marketing for use in research and demonstration projects. The Institute is currently administering an extensive land levelling project.

Grapes

Grape production has developed rapidly since 1980. Commercial acreage has increased from 2 hectares (5 acres) in 1980 to over 61 hectares (150 acres) in 1986. Grapes are grown in seven counties by 54 growers. Production was estimated at 60 tonnes (66 tons) in 1986, down from 80 tonnes (88 tons) for 1985 because of unfavorable weather conditions.

The Nova Scotia Farm Winery Policy, proclaimed March 11, 1986, encourages the growing of wine grapes and the production of wine from locally grown grapes.

Under this new Policy, farm wineries are permitted to operate farm winery stores and to retain profits from wine sales up to 350 cases/acre of vineyard. Two farm wineries, Grand Pre Wines and Jost Wines, now have an extensive list of wines on the market.

The third commercial grape short course was held at Kentville in March, 1986, with a registration of 28.

GREENHOUSE INDUSTRY

There are approximately 17.5 hectares (43 acres) of greenhouses and over 80 commercial greenhouse producers in Nova Scotia. Production is spread through most of the Province with the largest producers situated in Annapolis, Kings, Hants and Cumberland Counties. Total sales for 1986 were $13,300,000.

Ornamental plant production is the largest segment of the industry and includes cut flowers, flowering pot plants, foliage plants, bedding plants and vegetable transplants. Over 13.4 hectares (30 acres) of greenhouses are used for these crops and sales totalled $12,000,000 in 1986.

The greenhouse vegetable industry is approximately 4 hectares (10 acres) in size and nearly equally divided between tomato and cucumber production. Marketing takes place between March and October and the 18 producers achieved sales of $1,300,000 in 1986. Hydroponic production of lettuce is a new crop for two growers with limited year-round lettuce production.

MAPLE SYRUP

In Nova Scotia in 1986, 77 maple operations made and sold a total of 62,462 L (13,862 gallons) from 199,500 taps. This is a seven percent decrease in production over 1984. The average operation made 809 L (178 gallons) from 2,591 taps.

The number of taps in Nova Scotia increased 7,550 over 1985. Markets have expanded, so producers need more syrup. They are getting this syrup by adding more taps. As well, two or three new operations

start up each year. The maple industry has been and continues to be in an expanding stage.

ORNAMENTALS

The landscape sod and nursery industry is valued at $16.2 million in 1986. Over 1,000 people are employed in this industry. The following is a listing of the individual components and the number of establishments in the industry:

Sod Growing—16 growers
—1,034 hectares (2,553 acres) in production
—2,967,318 m^2 (3,549 sq. yards) harvested
—Value $4,258,000

Landscape Contracting—55 establishments

Landscape Maintenance—13 establishments

Ornamental Nurseries—20 establishments
—34 hectares (85 acres)

Garden Centres—35 establishments

Tree Pruners—8 establishments

Miscellaneous Sales Stations—54 establishments

The Department of Agriculture and Marketing also provides home garden extension assistance. In addition to handling 4,172 telephone information requests and 876 written requests, an association was maintained with 33 garden clubs, six horticultural and four specialty societies in the province, having a total membership of 1,400 people. The Nova Scotia Garden Guide is also produced by this Division. A total of 130 tapes were distributed to 12 radio stations in the province during the year.

TREE FRUITS

The 1986 growing season for tree fruit production was a good one. However, though fruit trees overwintered well, a May 5 frost resulted in considerable injury to apple flower buds. Cool and wet weather conditions for much of the growing season adversely affected fruit size. Fruit color was good but fruit russeting caused by the early frost reduced

fruit quality. Apple scab was similar to 1985 and there were no major insect problems.

The overall farm gate value of the 1985 tree fruit crops was estimated at $10,014,000 compared to $10,226,578 for 1984.

Apples

The November estimate placed the 1986 apple crop at 1,800,000 bushels compared to 1985's crop of 3,050,000 bushels. However, the prices for fresh and processed apples were considerably stronger than 1985 returns.

The marketing and returns remain the major concern for fruit growers. The Nova Scotia Fruit Growers' Association study of the tree fruit industry, "Profile of the Future," was conducted in 1985 in order to give direction to the industry and to find a means of correcting the marketing situation in Nova Scotia.

The Nova Scotia Fruit Growers' Association have continued their McRed brand McIntosh program for export sales to Great Britain. However, export sales declined to 91,646 bushels in 1985–86 from 97,392 bushels in 1984–85. Export sales of the 1986–87 crop are lower than that of the previous year because of poor fruit colour in the 1986 growing season.

Pear and Stone Fruit

The 1986 pear crop was estimated to be 60,000 bushels which would be 20,000 bushels lower than the 1985 crop.

The value of the pear crop was $684,800 with an average return of $8.56 per bushel. The plum crop was estimated at 7,000 bushels, down 46 percent from the 1985 crop of 13,000 bushels. Value of the plum crop was $193,000 or $14.90 per bushel. Peach growers had a good crop while the cherry crop was poor as a result of frost injury to the flower buds.

The number of new fruit trees planted in 1986 was 40,750 compared to 52,671 for 1985, representing 123 hectares (304 acres) of new orchards.

VEGETABLES

In the Province, 4,998 hectares (12,341 acres) of vegetable crops are grown by 313 vegetable producers generating an estimated $12.8 million at the farm gate (not including greenhouse vegetable crops). Seventy-one million kg (156.5 million pounds) of marketable vegetable crops are produced annually. Seventy-five percent of the vegetable crops area is in Kings County, 20 percent is in the Counties of Cumberland, Annapolis, Colchester, Cape Breton, and Pictou, five percent is in the Counties of Hants, Lunenburg, Halifax, Yarmouth and Digby.

The year 1986 was a good year for cool season crops but even poorer than 1985 for the warm season crops. Heavy frosts in early May and heavy rains and cool weather in July, August and September reduced the yields of warm season crops by 30–40 percent.

Generally, market prices were significantly higher and demand was good for vegetable crops due to lower volume of U.S., Ontario and Quebec produce on our markets.

BULK BIN POLICY

The Bulk Bin Policy is administered through the Horticulture and Biology Branch. Fruit and vegetable growers were eligible to apply under the Policy. The assistance under the policy was $10.00 per bin up to a maximum of $1,000.00; minimum number of bins eligible was 25. In order to be eligible, growers had to operate a minimum of five acres of tree fruits or vegetables. The bins were inspected and coded according to the codes used under previous policies.

A total of 76 applications were approved, of which 62 claims were processed (38 fruit; 24 vegetable). The total value of this policy was $40,460 ($24,600 fruit growers; $15,860 vegetable growers). There were 4,046 bins built under this Policy.

EXTENSION BRANCH

OVERVIEW

1986 marked the 60th anniversary of the Extension Services Branch in the Province of Nova Scotia. The first Agricultural Representative was appointed in 1926.

The Extension Services Branch provides agricultural education, information and services to the commercial farmer, part-time farmer and the rural community through programs such as 4-H, Women's Institutes, food education, safety, agricultural awareness, home study programs, various short courses and media coverage.

AGRICULTURAL REPRESENTATIVES AND SPECIAL PROJECT OFFICERS

The primary objective of the Agricultural Representatives and Special Project Officers is to provide a cooperatively planned extension education program and advisory service to Nova Scotia farmers, farm organizations and others involved in the agricultural industry in Nova Scotia. Agricultural Representatives provide a "first point" contact to rural people on matters relating to livestock, crops, soils, farm management, farm organizations, farm loans and rural development.

In 1986, a staff of 37 people in 14 County offices was employed to serve rural Nova Scotians. Through farm and office calls, short courses, meetings, radio broadcasts and newsletters, staff delivered extension programs. It is the responsibility of the Agricultural Representatives to communicate and provide up-to-date information on all matters related to agricultural production and marketing. This involves technical, as well as policy, information.

FARM MANAGEMENT

The Farm Management Division assists Nova Scotia farmers, farm leaders and Department staff to develop their business management knowledge and skills. Farm Management is concerned with the management of all resources available to the farm manager and his/her decision making process.

Farmer Counselling

Individual farmer contact continues to be a major part of the Farm Management Extension Program. This contact may be either in the form of farm calls by staff or through farmers seeking assistance by calling the offices. During 1986, a total of 1,090 farm calls and calls to the office were made by farmers. A breakdown of the purpose of these calls is as follows:

Record Systems and Analysis	454
Pre-Loan Counselling	167
Business Agreements and Tax Management	172
Financial Management and Analysis	140
General Farm Management	157

Clients are often referred to us by others in the Department, by bankers, by lawyers and by accountants. In 1986, a total of 246 referrals for assistance were received.

Farm Organizations

During 1986, the Branch continued its work with farm organizations. This involvement continued at, or above, previous levels. Primarily, work with farm organizations has been one of providing economic expertise to various producer groups.

Education Programs

One of the key roles of the Farm Management Division is to enhance the business management knowledge and skills of clients. While part of this objective can be met by individual contact, educational programs are another method that is used by staff. During 1986, staff participated in 85 short courses and workshop sessions throughout Nova Scotia.

Management Inforamtion Programs

The need for up-to-date, reliable management information related to costs, returns and production co-efficients has been increasing over the past number of years.

In 1986, a number of farm business summaries, production cost studies and farm management fact sheets relating to the farm business

management area were prepared. The first Nova Scotia Mink Farm Summary was completed.

4-H AND RURAL YOUTH

"Grow With Us" was the 1986 4-H Theme. It exemplified that 4-H has many avenues of project work, promotes and teaches new skills and helps youth grow and develop confidence and life skills. The theme was featured throughout the year at all shows and 4-H events.

Nova Scotia 4-H Council

The Nova Scotia 4-H Council played an active role in designing programs and advising changes for the 4-H program. In 1986, the Nova Scotia 4-H Council participated in an International 4-H project in Montserrat, British West Indies, and completed the multi-purpose building at Camp Rankin. The Nova Scotia 4-H Council was guided by the capable leadership of its President, Mary Magee of Kings County.

Nova Scotia 4-H Weekend

Over 400 volunteers and members attended the Nova Scotia 4-H Weekend held May 9th–11th, 1986, at the Nova Scotia Agricultural College, Truro, Nova Scotia. Competitions were held in public speaking, demonstrations, square dancing, woodsmanship, posters and decals. On Saturday, May 10th, over 1,000 people attended 4-H Night in Nova Scotia at the Cobequid Educational Centre, Truro. This program features the weekend's winners as well as the National 4-H Award recipients.

Competitors in public speaking and demonstrations went on to the Atlantic Competition and took top honors.

Nova Scotia 4-H Show

The Nova Scotia 4-H Show was held September 26th–28th, 1986, at the Western Nova Scotia Exhibition Grounds in Yarmouth, Nova Scotia. Over 12,000 people attended the three-day event. This 4-H Show featured the top 4-H projects and competitors from each County. It has provided a valuable incentive to improve the quality of 4-H project work.

The 4-H Market Steer and Lamb Show 'N' Sale had an enthusiastic participation. Fifteen steers sold for an average of $1.21 per pound or $2.66 per kg. Also, 15 market lambs were sold for an average of $1.74

per pound or $3.82 per kg. Market cockerels sold for a record high of $91.50 per trio.

Both programs were organized by a committee of volunteer adult leaders.

Other 4-H Activities

A Nova Scotia 4-H Alumni continues to service three collegiate 4-H programs at the Nova Scotia Agricultural College, St. Francis Xavier and Acadia.

Five 4-H camps for intermediate and junior 4-H members were held at Camp Rankin in the summer of 1986. Two hundred and fifty members participated.

The Nova Scotia 4-H Council approved a major change in project format. 4-H leaders received leaders' kits and members received a four-page record sheet.

4-H Statistics

In 1986, there were 1,066 boys and 1,676 girls participating in the program for a total of 2,742 members. The average age of the membership was 12 years and the tenure of the members was roughly 2.8 years. Members enrolled in 4,287 projects and completed 3,511 for a completion rate of 82 percent.

In 1986, there were 132 multi-project community 4-H Clubs with an average of 21 members. These clubs were led by 965 adult volunteer leaders and 70 junior leaders in 40 different projects. Roughly, the program has one adult leader for every three members.

Project Breakdown

Beef Calf	269	Food	355
Dairy Calf	370	Sewing	253
Poultry	94	Craft	789
Horse	352	Woodworking	346
Rabbit	197	Outdoorsman	258
Other Livestock	269	Photography	129
Horticulture	209	Others	397

HOME ECONOMICS

The objectives of the Home Economics Division are to develop an awareness and an understanding among the general public of the Nova Scotia agricultural industry, to promote utilization of Nova Scotia food commodities and an understanding of the basic management skills necessary to maximize value for every food dollar spent, and to develop leadership, home management and related skills among the members of Women's Institutes, 4-H homemaking members and rural women.

The Home Economics Division's program is coordinated by a staff of seven Home Economists located in six regional offices throughout the Province. The Home Economics Division serves a large clientele and meets their needs through courses and the distribution of material, etc. The Division sent out 68,076 publications and answered 36,651 requests for information. Three hundred and fifty people registered in the Home Study Course on "Financial Management."

Food Education and Promotion

Food education has remained an important aspect of the Home Economics program. The role of the Home Economist is one of educating the consumer about the Nova Scotia agricultural industry and the products that are produced here.

The media is one of the main avenues that the Home Economist uses to get this message across. Regular newspaper columns, press releases, guest articles, radio tapes, open line shows and interviews are the many avenues used.

The food education program has changed over the years and it has been incorporated effectively in other parts of Home Economics as well. Women's Institutes, 4-H, and rural women participate in food projects initiated by the Home Economics Division. For example, many 4-H clubs and Women's Institutes branches are active in Nutrition Month and World Food Day programs. Both 4-H and Women's Institutes have sponsored groups in the Food Extravaganza Program. Farm Women have participated in programs to promote Nova Scotia food products to the general public. This is a real step forward, with producers taking their product story from production right through to consumption.

Women's Institutes of Nova Scotia

There has been a shift in the approach taken when working with Women's Institutes. Home Economists are working more on the planning level of events as well as attending more district and provincial events.

In Women's Institutes, new branches have been formed and new members have joined. The Promotion Committee is looking at ways to promote the organization and to keep the work it's doing in front of the public eye. A new program in 1986 was "Families Feeding Families."

In many branches and districts, there is a lot of energy put into Women's Institutes by its members. They are doing worthwhile projects to benefit themselves and their communities. On a provincial level, the Board has reacted to more and more issues, presenting briefs on behalf of their organization, etc., to bring about change.

4-H

A significant portion of the Home Economics' program is committed to 4-H, as over 57 percent of the 4-H membership is enrolled in homemaking projects, crafts, foods and clothing. Achievement Days are still a point at which we evaluate each member on their own capabilities; however, the 4-H Show, which highlights competitions, seems to be the focus for the year.

A great deal of effort by volunteers and staff goes into coordinating the 4-H Show. It has proven to be a showcase of 4-H. Homemaking is just as much an integral part of this show as the livestock. All the events require planning to give them the finesse they have at the show. The Bake-Off, Fashion Show, Traditional Craft Competition, Community Quilt, Crafts Competition, and the Nutritional Booth are the homemaking events at the Show.

Two new project areas being researched are advanced foods and financial management. One hundred and twenty-seven have enrolled in the cake decorating project.

1986 Farm Women's Conference

The seventh Farm Women's Conference was held in Truro with a registration of approximately 90 delegates. This represented a good cross-section of women from all over Nova Scotia. The conference is co-spon-

sored by the Women's Institutes of Nova Scotia and the Nova Scotia Department of Agriculture and Marketing.

A panel on the topic "Families Feeding Families," was the feature of the first morning's program. The panel looked at marketing structures on farm expenses, consumers and processing. This day also included a session on producing, promoting and buying Nova Scotia products.

Day two of the conference featured sessions on the Trespassing Act, Waste Management and Right to Farm Legislation. The afternoon session featured discussions on financial concerns of farm women.

EXTENSION AGRICULTURAL ENGINEERING DIVISION

The work of the Extension Agricultural Engineering Division involves the provision of technical support services for various government programs and to assist farmers and the agricultural industry in the construction of capital works. These works include farm structures for livestock housing, crop storage and handling, land development works and land protection works. The Division also provides consultation and technical service on farm mechanization and crop processing, as well as storage and energy conservation and utilization.

The work of the Division can be reported under five program areas: Land Development, Farm Power and Machinery, Crop Processing and Energy, Land Protection, and Farm Structures.

Land Development Program

This program covers the provision of technical services with respect to land clearing, land forming, drainage, farm pond construction, and dyke-land roads. It also involves administrative input and support for the implementation of the Land Improvement Policy, through processing of applications, inspection of works and processing claims for assistance.

A statistical summary of the program is as follows:

Number of applications approved	858
Total Value of applications approved	$7,095,263
Grant Value of applications approved	$5,364,645
Value of claims processed	$4,850,250

Work accomplished on which subsidy was paid:

Land clearing	2,387	acres
Windrow removal	135,468	feet
Apple tree removal	6,993	trees
Underdrainage	3,769,701	feet
Surface ditching	625,359	feet
Ditch spoil levelling	172,761	feet
Roads on dykelands	22,152	feet
Land levelling	571	acres
Land ripping	11	acres
Firebreak construction	27,090	feet

Land Protection

This area of work includes programs related to the operation and maintenance of tidal dyke systems, the operation and maintenance of flood control structures on the Musquodoboit River and Brierly Brook and the construction of main outlet drainage channels.

A statistical summary is as follows:

Aboiteaux relined	8	
Aboiteaux repaired	1	
Main Outlet drains	59,400	feet
Ditch spoil levelled	52,000	feet
Dykes	51	miles
Brook & ditches profiled	14.7	miles
Upland ditches profiled	33.6	miles
Land forming surveys	455	acres

Farm Structures

A major part of Extension Engineering involves engineering work for farm structures.

The Livestock and Livestock Feed Facilities and Structures segments of the Canada/Nova Scotia Agri-Food Development Agreement requires input from the Extension Engineers. Assessment and engineering counsel was provided for over 70 applications.

The Canada Plan Service (CPS) continues to be a valued resource in the preparation of plan sets. A total of 1,767 plan sets were distributed.

In addition to CPS plans and stock plans from our own files, 114 farm building plan sets were prepared in the Truro and Kentville Centres. Plans prepared can be categorized as follows:

Beef	20
Dairy	19
Swine	8
Poultry	16
Fruit & Vegetable	8
Grain, Forage and Feed	9
Special Structures	23
Building Engineering	5
Manure Handling & Storage	6

Crop Processing and Energy

The Extension Engineering Division devotes considerable time and effort to this specialized area of work. The areas of work considered under this heading include:

- Fruit and Vegetable Storages
- Grain Storage and Feed Facilities—on-farm
- Grain Storage and Handling Facilities—provincial centres
- Energy Management and Utilization

Plans provided for these various facilities are as follows:

• Fruit and Vegetable Storages	45
• On-Farm Grain Storage and Feed Facilities	30
• Energy Management and Conservation	25

The Extension Engineering Division is also responsible for providing engineering expertise for the administration and management of, as well as for construction work carried out, at the Provincial Grain Centres for the Provincial Grain Commission.

Farm Power and Machinery

An increasing awareness of the importance of selection and proper maintenance of farm machinery on the part of the agricultural industry is becoming evident each year. The industry is becoming more efficient through mechanization which requires very significant capital input costs.

In this regard, the Power and Machinery Engineer and the Machinery Technician have been involved in a variety of activities. They also have worked in close cooperation with a number of other staff members in undertaking various projects.

The main areas of work in this section involve the following:

- Farm Machinery Advisory Committee
- Atlantic Farm Mechanization Show
- ACAE Power & Machinery Advisory Committee
- Blueberry Resource Committee
- Vegetable Sub-committee

One of the main thrusts of the work is the holding of machinery evaluations and demonstrations throughout the Province. Eight machinery evaluation demonstrations and seven field days were held on various topics.

There were also eight short courses conducted on various topics and over 50 farm calls made to individual farmers for various mechanization problems.

Atlantic Farm Machinery Institute

The Institute has been in place since March, 1985, and has been developing and receiving proposals for mechanization research and development projects.

Three evaluation and testing projects have been undertaken and reports prepared on:

- Disc Mower Evaluation
- Blueberry Grading and Packing Machinery
- Blueberry Burner Unit

NOVA SCOTIA FARM AND COUNTRY VACATIONS

1986 was a very successful year for the program in terms of guest members. In 1986, there were 48 listed guest homes with 12,301 guest days—an increase of 31.5 percent over 1985. Visitors stayed an average of 1.11 days in 1986.

Of the total number of guests, 56.3 percent arrived in July and

August, with 21.3 percent arriving in September-October. The United States accounted for 53.5 percent of guests while 2.8 percent came from Europe. Canadian guests accounted for 43.7 percent of the total.

YOUNG FARMERS CONFERENCE

"High Mech and Tech Farming in the '80's" was the theme of the Young Farmers Conference held in Amherst in mid-February. Attendance was 59.

Farm couples took an active role in planning the conference and were directly responsible for a number of conference events. The Conference featured a farm tour, industry displays, talks and discussion on topics such as farm labour relationships, the effects of growth hormones on livestock, technology acceleration and a profile of agriculture in Cumberland County.

NOVA SCOTIA FARM AND HOME SAFETY COMMITTEE

The Nova Scotia Farm and Home Safety Committee aims to promote safety in all aspects of farm life. Members of the Committee are drawn from the Nova Scotia Federation of Agriculture, Women's Institute, Workers' Compensation Board, 4-H Clubs, and the Department of Agriculture and Marketing. The Committee provides a forum for discussion and for cooperative action on rural safety projects.

In 1986, "Split Seconds" was featured on CBC's *Land and Sea* showing the way Nova Scotia farmers have to cope with serious farm accidents.

Other activities included a survey of all farm accidents within the Province, farm women's and youth safety courses, news releases and a safety page in Extension News.

WORLD FOOD DAY

"Hope, Not Hunger" was the theme for the 1986 World Food Day of Nova Scotia which involved 35 organizations.

Programs carried out in 1986 by member organizations included:

- 1,200 information kits distributed on request to schools
- a film festival with three Halifax theatres

- a provincial conference on the theme in Truro
- hunger lunch at the N.S. Agricultural College
- special program for Women's Institutes and Churches
- a Nova Scotia Department of Agriculture and Marketing, Women's Institute of Nova Scotia, Nova Scotia Federation of Agriculture challenge which raised well over $22,000 for relief and development projects in the third world.

EXHIBITION SUB-COMMITTEE

The Committee evaluated the Province's 15 exhibitions and reported its findings at the annual meeting of the Exhibition Association of Nova Scotia.

On April 19, 1986, a workshop was held for exhibition members on displays, techniques, working with volunteers and other matters related to handcrafts, vegetables and flowers.

SOILS AND CROPS BRANCH

OVERVIEW

The Soils and Crops Branch is responsible for crop extension activities for all cereal and forage crops grown in Nova Scotia which are utilized either as human or animal feeds. Tobacco is also the responsibility of the Soils and Crops Branch. The Branch is responsible, as well, for expertise in five other major areas of activity:

- Weed expertise for all crops and the administration of the Weed Control Act

- Soils expertise to serve all branches of the Department of Agriculture and Marketing and other Departments of Government, i.e. Departments of Health, Forestry and Environment

- Establishing a coordinated criteria for land use planning as affected by Agriculture and other Departments of Government, i.e. Development, Transportation, Municipal Affairs, Lands & Forests, and Tourism

- Provincial Chemistry Laboratory Services maintained at Truro serves all professional staff of the Department of Agriculture and Marketing, all farmers, market gardeners, greenhouse operators and homeowners in soil and water sample chemical analysis, as well as livestock feed sample analysis, to determine the nutrient content. Plant foliar analysis service is provided to greenhouse operators and orchardists at a nominal cost. All other routine laboratory analysis services are provided free of charge to Nova Scotia residents

- The Soils and Crops Branch is responsible for the administration of a Pesticide Residue Analysis Service located at the Kentville Agricultural Centre which is cost-shared equally with the other three Atlantic Provinces

THE SEASON

The 1986 growing season was not one of the better ones for cropping in Nova Scotia. Temperatures were below average every month of the year and, as a result, warm season crops like corn did not do well. Cool season crops like cereals, however, did not suffer.

The province had well above average precipitation in 1986, with

much of it coming in July and September. This meant poor hay and grain harvest weather and resulted in poor quality feed for some farmers.

Average Temperature And Precipitation Departures From Normal In Nova Scotia During 1986

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
Temperature Departure From Normal (°C)	-1.5	-0.9	-0.6	-2.3	-0.5	-1.2	-1.6	-0.8	-1.9	-1.2	-2.2	-0.9	-0.8
Precipitation Departure From Normal (%)	-7	-14	-34	-19	-15	-32	-91	-7	-42	-38	-15	-46	-10

CROPS

Forage

Though the cool dry weather during the first half of May was good for seeding, it slowed the growth of established crops. Pastures did not recover well following early grazing and hay fields were slow to develop. The weather during the last part of May and the month of June was considerably wetter but remained quite cool. Many farmers throughout the Province took advantage of some dry weather during the first week of June to take in their first cut of haylage. Most of the first cut haylage crop was in by mid-June but, due to variable weather, a lot went in quite wet which resulted in some spoilage.

Overall, the 1986 haylage crop proved to be of good quality. Farmers in the Province should be applauded for their awareness of how important it is to cut early in order to produce a high quality forage.

Quality Of Hay Samples Received At The Provincial Laboratory In November, 1983–1986

Description: 1st and 2nd cut, mixed and grass hays only.

Year	# of Samples	% Protein	% Ton
1986	147	11.54	50.7
1985	182	8.32	47.7
1984	123	9.75	50.0
1983	102	10.8	49.9

Gains have also been made in forage yields. Average yields have

increased 30 percent over the last ten years. Higher yields mean greater productivity and larger returns.

Cash Crop Hay

Scotia Hay, a co-operative marketing venture comprised of 11 Annapolis County growers is the primary supplier of Nova Scotia hay to offshore markets. The actual shipping, marketing and handling of receipts for Scotia Hay is presently handled by Co-op Atlantic at a charge of $10.00 per tonne ($9/ton).

Scotia Hay shipped 2,600 tonnes (2,860 tons) in 1985–86, 1,100 (1,210 tons) of which was shipped to Newfoundland and the remaining 1,500 tonnes went to Scotland.

The market price paid for hay is determined by the cost of transportation, the quality and the number of competing suppliers.

Corn

The weather during early May was dry and cool providing conditions just right for seeding. Hence, much of the province's corn crop was planted before mid-May. The corn emerged well, the result of a warm spell during the third week of May, but with the return of cool and, in some areas, very wet spells during late May, June and most of July, coupled with early fall frosts, the corn did not develop properly. Heavy rains which fell on some localities in the western region led some farmers to side-dress with ammonium nitrate to replace nutrients leached by the rain.

Cereal

Grain production in 1986 was greatly influenced by weather conditions. The winter of 1985–86 was moderate, resulting in good winter survival of fall seeded grains.

Late snow melt delayed spring work in the Annapolis Valley area to the last few days of April and the first week of May. Cool dry conditions resulted in early completion of spring grain seeding across the province. However, local areas experienced delays in seeding due to wet weather. Early spring growth was excellent with optimum moisture but cool growing conditions. Growing conditions resulted in low disease pressure on both spring and winter cereals during May and June.

Heavy rainfall and high winds during mid-July resulted in lodging in lush fields of spring barley and oats. These wet conditions increased the prominence of leaf and head diseases on winter wheats.

Wet weather through late August and September delayed the harvest of winter and spring grains. Despite inclement conditions in the latter part of the season, some of the best grain yields ever were recorded.

Volumes of Local Grain (tonnes)

	Steam Mill		Bayhead*		Middleton	
	1986	1985	1986	1985	1986	1985
	(tonnes)		(tonnes)		(tonnes)	
Wheat	3,675	2,416	331	167	96	66
Barley	1,048	1,008	857	531	151	194
Rye	609	1,314	6	15	301	469
Oats	742	852	713	460	151	320
Corn	275	1,521	-	-	200	278
Canola	-	-	87	94	-	-
TOTAL	6,349	7,111	1,994	1,267	899	1,327

	Steam Mill		Bayhead*		Middleton	
	1986	1985	1986	1985	1986	1985
	(tons)		(tons)		(tons)	
Wheat	4,043	2,658	364	184	106	77
Barley	1,153	1,109	943	584	166	213
Rye	670	1,445	7	17	331	516
Oats	816	937	784	506	166	352
Corn	303	1,673	-	-	220	306
Canola	-	-	96	103	-	-
TOTAL	6,985	7,822	2,194	1,394	989	1,464

*Includes Debert

Deliveries of wheat mostly for milling purposes increased at all facilities while barley also showed a modest increase in deliveries.

RESEARCH AND DEMONSTRATION ACTIVITIES

The Soils and Crops Branch, through the activities of Soil and Crop

Improvement Associations and working with commodity groups, conducted numerous trials evaluating and demonstrating improved cereal management inputs. The Branch cooperated with ten barley growers at various locations around the province demonstrating the benefits of disease and lodging control on this crop. The limited access farmers have to plant health products is a significant deterrent to improved cereal management in this province.

Small plot research trials were conducted to address cereal management inputs including variety performance under various management regimes, new seed treatments to control foliar diseases and the influence of seeding rate on yield when disease and lodging is reduced. These project sites were used for summer tours and the trial results have been incorporated into the Soil and Crop Improvement Association Trial Summary. The results of such trials form the basis of winter extension meetings.

In summary, the 1986 grain crop gave the highest yields in recent years. However, difficulties in harvest and low feed grain prices had a tendency to leave some growers less than enthusiastic.

Soybeans

A reduction of ten to 15 percent in Corn Heat Units, coupled with excess moisture during parts of the season, lowered yields of soybeans on most farms. Average yields on approximately 100 ha (250 ac) of soybeans grown in the Central and Eastern Nova Scotia Regions ranged from about 1.8–2.0 t/ha (.8–.9 T/ac) in 1986, while in other years, a typical crop produced 2.2–2.5 t/ha (1–1.1 T/ac). In the Western Region, cool wet conditions reduced emergence and created difficulties in weed control.

Edible Beans

Edible Beans were investigated in 1986 as a rotational crop for Annapolis Valley farmers. Jacob's Cattle, Soldier Beans, Yellow Eyes and White Beans all had the same difficulties experienced by Soybeans in the province. Initial contacts have been made with U.S. buyers in regard to contracting for Nova Scotia Edible Beans.

Canola

The 1986 season produced a respectable canola crop. Six Great Village

and North Shore area farmers grew a total of 46.1 ha (114 ac) which yielded 71 tonnes of canola for an average harvest of 1.5 t/ha (.68 T/ac). This is comparable to the participation and yields that were attained from this rather experimental crop in 1985.

The future of canola production in Nova Scotia is quite unsure at this time. However, there is a number of farmers who would like to grow this crop in both the Annapolis Valley and Central regions. Canola is an excellent crop to grow in rotation with cereals to break disease cycles. This crop can also tolerate a range of soil drainages and climatic conditions.

Tobacco

Poor growing weather reduced tobacco yields for the second consecutive year in Nova Scotia. The issue of available production quota to Nova Scotia growers in a time of decreasing demand is the most prominent factor in the industry at this time.

In 1986, Nova Scotia growers produced 503,741 kg (1,110,540 pounds) of tobacco at an average price of $4.02/kg ($1.83/lb) for a total value of $2,026,000.

WEED SCIENCE SERVICES

The Weed Science Services Section provides research and advisory services on weeds and weed control. The Section advises Government on policy issues related to pesticides, including pesticide use in agriculture and the control of noxious weeds. It also administers the Nova Scotia Weed Control Act.

Activities conducted by the 19 Municipal Weed Inspectors have been instrumental in preventing or limiting the spread of such weeds as nutgrass, hoary alyssum, velvetleaf, milkweed, jimsonweed, poison ivy, tansy ragwort, ragweed, etc. The objective of the Act is to prevent the spread of such weeds and thus provide a saving to farmers of this province.

The Municipal Weed Inspectors provide a very useful means of distributing information on weeds and their control within such designated areas. Also, the inspectors provide the means whereby new weeds can be detected and controlled. Thus prevention of the spread of new weeds can be achieved.

Total cost for 1986 to the Nova Scotia Department of Agriculture and Marketing has been over $96,000, with Kings County receiving approximately $33,000, Colchester County approximately $11,000, Annapolis County approximately $7,000, with other units receiving smaller amounts.

SOIL AND CROP IMPROVEMENT ASSOCIATIONS

1986 marked the 18th year of Soil and Crop Improvement Association activity in Nova Scotia.

The Association objective is to encourage the improvement of soil and field crop management in the province of Nova Scotia. To effectively meet this objective, Agricultural Representatives and Soils and Crops Specialists work closely with the County S.C.I.A. Directors to plan and carry out programs each year.

ATLANTIC PROVINCES PESTICIDE RESIDUE LABORATORY

Samples received by the Pesticide Residue Lab in Kentville totalled 442 in 1986 from the four Atlantic Provinces.

Slightly over 50 percent of samples were from Government departments and Crown Corporations.

SOIL PHYSICS LABORATORY

The Land Evaluation and Planning Service has provided the driving force to make this Lab operational. The Soil Physics Lab currently carries out the following determinations:

- Particle size analysis
- pH in water and in calcium chloride
- Organic matter
- Bulk Density
- Saturated hydraulic conductivity
- Cation exchange capacity
- Moisture retention

A total of approximately 5,368 determinations were completed in 1986. Demands on the Lab are steadily increasing.

NOVA SCOTIA SOILS INSTITUTE

The membership for the Nova Scotia Soils Institute was finalized in January of 1986. The Institute has been focusing primarily on the development of long-term research strategies in three specific areas including:

- Artificial soil drainage;
- Soil and water conservation;
- Soil fertility and plant nutrition.

To facilitate development of these strategies, the Institute formed three working committees to address each area of concern.

LAND EVALUATION AND PLANNING SERVICE

In 1986, the Land Evaluation and Planning Service (or LEAPS) moved out of the pilot project phase into full-scale production mode. Out of a total of 15 applicants, 13 formally signed on to the program. Eleven of these were surveyed in 1986 and the remaining two were carried over to 1987. A total of approximately 1,800 ha (4,450 ac) of land were surveyed and maps and reports produced.

The LEAPS Program continues to receive strong support throughout both provincial and federal levels of government and in the farm community. All the staff of the Soil Survey and Land Use Planning Section of the Branch are involved in the LEAPS Program.

FERTILIZER ASSISTANCE POLICY

The Fertilizer Assistance Policy is designed to provide assistance to farmers for the purchase of commercial fertilizer used for agricultural crop production.

Fertilizer Assistance Policy
1986

County	Number of Applications	Average /Application	Total Expenditure
Annapolis	135	$ 533.75	$ 72,056.49
Antigonish	136	903.26	122,843.15
Cape Breton	59	737.15	43,491.66
Colchester	229	756.90	173,329.02
Cumberland	180	673.94	121,309.92
Digby	23	250.30	5,757.01
Guysborough	25	345.60	8,640.10
Halifax	61	698.43	42,604.05
Hants	151	641.42	96,854.02
Hants East	104	1,006.35	104,660.23
Inverness	90	678.87	61,097.87
Kings	445	918.57	408,765.11
Lunenburg	135	364.39	49,192.05
Pictou	212	481.64	102,108.63
Queens	15	215.88	3,238.21
Richmond	10	169.77	1,697.67
Shelburne	4	157.50	629.98
Victoria	11	673.00	7,403.01
Yarmouth	50	459.63	22,981.43
PROVINCE	2,075	$ 698.15	$1,448,659.61
1985–86	2,251	$ 695.09	$1,564,666.79
1984–85	2,387	660.83	1,575,398.26
1983–84	2,430	655.17	1,592,070.65

The 1986 season may prove to be abnormally low in its use of fertilizer due to the fact that: because of the poor weather, farmers did not have occasion to use as much fertilizer; crop prices were lower and less fertilizer was purchased as a result; and the cost of the various grades of fertilizer was lower in 1986 resulting in a lower payout of assistance.

PEDIGREED SEED GRAIN PRODUCTION POLICY

The Nova Scotia Pedigreed Seed Production Policy was continued in 1986. The purpose of this policy is to provide financial assistance to encourage sufficient production of recommended varieties of Pedigreed seed grains in Nova Scotia to supply provincial requirements.

A total of $10,000 was paid out in assistance to nine growers (maximum $2,000 per grower).

PROVINCIAL CHEMISTRY LABORATORY

A total of 29,938 feed, soil, water and tissue samples were received by the Chemistry Laboratory in 1986 for analysis, up 7.8 percent over 1985. While soil sample receipts were down slightly, all other sample categories showed moderate to large increases.

Feed sample receipts set a new, all-time high, increasing by over 13 percent. Approximately half of this increase was in farmer generated samples, the other half by research samples.

Plant tissue samples increased by 22 percent with a modest ten percent increase in samples from commercial greenhouse growers. The major part of the increase was accounted for by research samples.

The other major increase came from water samples where submissions from the Nova Scotia Department of Transportation increased by almost 300 percent. These samples were in support of their policy of sampling all wells prior to highway construction.